



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/853,038	05/11/2001	Yukihiro Watanabe	P100725-00040	5084

7590

11/04/2002

ARENT FOX KINTNER PLOTKIN & KAHN, PLLC  
1050 Connecticut Avenue, N.W., Suite 600  
Washington, DC 20036-5339

EXAMINER

BINDA, GREGORY JOHN

ART UNIT

PAPER NUMBER

3679

DATE MAILED: 11/04/2002

10

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/853,038

Applicant(s)

Watanabe et al

Examiner

Greg Binda

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Sep 24, 2002
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above, claim(s) 8-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Sep 24, 2002 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):  
a) ☒ All b) ☐ Some\* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

Art Unit: 3679

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

*Election/Restriction*

2. Claims 8-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election of Species I (Figs. 1-4) was made without traverse in Paper No. 6.

*Response to Amendment*

3. The amendment filed Sep 24, 2002 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. Applicant is required to cancel the new matter in the reply to this Office Action. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

- a. In the paragraph bridging pages 7 & 8: "contact ratio defines the ratio of the radius of curvature R of the roller guide surface relative to the radius of curvature r of the roller outer peripheral surface"

- b. In claim 1: "contact ratio is defined by a [ratio] of a radius of curvature of said roller guide surface relative to a radius of curvature of said outer peripheral surface"

Art Unit: 3679

*Drawings*

4. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on Sep 24, 2002 have been approved for examination purposes. The drawings are, however, objected to because:

a. None of the drawings of the elected species includes reference character "r" which (according to the amendment filed Sep 24, 2002) defines a critical dimension in the calculation of "contact ratio". This "contact ratio" is critical in defining the claimed invention. See for example claim 1, lines 10+.

b. Figs. 5A & 5B should include reference numerals 14' and 30' since (according to the amendment filed Sep 24, 2002) those reference numerals identify elements critical to the understanding of the dimensions defined by reference characters R and r respectively.

5. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

*Specification*

6. The disclosure is objected to because on page 21, line 10, reference character "r" should follow "curvature" if, in fact, that reference character identifies the radius of curvature of the outer surface of roller 30 as stipulated in the amendment filed Sep 24, 2002

Art Unit: 3679

7. The specification is objected to as failing to comply with 37 CFR 1.71 and 1.75(d)(1) because the detailed description fails to provide proper antecedent basis for the following claimed subject matter:

a. Claim 1, lines 12-14, "a contact ellipse . . . does not deviate from the end surface of said roller".

b. Claim 2, line 3, "the contact surface pressure produced on said roller"

*Claim Objections*

8. Claim 1 is objected to because in line 15 "ratio" is misspelled.

*Claim Rejections - 35 U.S.C. § 112*

9. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1, lines 15+ recites the limitation "said contact ratio is defined by a [ratio] of a radius of curvature of said roller guide surface relative to a radius of curvature of said outer peripheral surface." There does not appear to be a written description of this limitation in the application as originally filed.

Art Unit: 3679

*Claim Rejections - 35 U.S.C. § 102*

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-3, 6 & 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Bartlett, US 6,033,311.

a. Claims 1 & 3. In Figs. 1-3 Bartlett shows a tripod joint comprising: an outer joint member 10 having three axial track grooves 18 in an inner periphery and roller guide surfaces 19 formed in opposing side walls of each track groove 18; a tripod member 20 having three radially projecting trunnion journals 26-28; and rollers 29-31 that rotate around respective trunnion journals 26-28 through a plurality of needle rollers (not shown) and received in the track grooves 18 of the outer joint member 10, each roller 29-31 being guided on an outer peripheral surface 41 by the roller guide surface 19. Fig. 3 shows that the form of contact between roller 29 and the roller guide surface 19 is arc-to-arc contact (i.e. circular contact per page 21, lines 13 & 14 of the instant application). In col. 3, lines 55-62 "contact ratio" is disclosed as being about 1.1. In col. 3, lines 57-59 the contact ellipse is disclosed as "a small surface area" which does not appear to deviate from an end surface of the roller 29.

Art Unit: 3679

b. Claim 2. In col. 3, lines 55-62 "contact ratio" is disclosed as being about 1.1 and so therefore is set so that the contact surface pressure produced on the roller 29 during application of predetermined torque is not more than contact surface pressure produced between the trunnion 26 and the needle rollers. (Note: when contact ration is between 1.02 and 1.2 the contact surface pressure produced on the roller during application of predetermined torque is not more than contact surface pressure produced between the trunnion and the needle rollers per the instant specification on page 22, lines 1-4).

c. Claims 6 & 7. Fig. 3 shows that a portion of the roller guide surface 19 corresponding to the end of the roller 29 is formed with a relief portion in the shape of an arc.

12. Claims 1, 4, 6 & 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwasaki et al, US 4,773,890 (Iwasaki).

a. Claim 1. Figs. 1-3 a tripod joint comprising: an outer joint member 10 having three axial track grooves 12 in an inner periphery and roller guide surfaces 13 formed in opposing side walls of each track groove 12; a tripod member 15 having three radially projecting trunnion journals 20; and rollers 21 that rotate around respective trunnion journals 20 through a plurality of needle rollers 8 and received in the track grooves 12 of the outer joint member 10, each roller 21 being guided on an outer peripheral surface by the roller guide surface 13. Fig. 3 shows that the form of contact between roller 21 and the roller guide surface 13 is arc-to-arc contact (i.e. circular

Art Unit: 3679

contact per page 21, lines 13 & 14 of the instant application) and that the "contact ratio" is 1.01 or above.

b. Claim 4. Fig. 2 shows the ratio  $Ls/do$  (as defined in instant claim 4) is less than 0.32.

c. Claims 6 & 7. Fig. 4 shows that a portion of the roller guide surface 22 corresponding to the end of the roller 21 is formed with a relief portion in the shape of an arc.

*Claim Rejections - 35 U.S.C. § 103*

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasaki. Iwasaki shows the ratio  $Ls/do$  (as defined in instant claim 4) as less than 0.32 but does not expressly disclose the value as being between 0.24 and 0.27. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the  $Ls/do$  ratio substantially between 0.24 and 0.27, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Killing*, 895 F.2d 1147, 14 USPQ2d 1056.

*Response to Arguments*

14. Applicant's arguments filed Sep 24, 2002 have been fully considered but they are not persuasive. Applicant argues the specification objections in item 7 above should be withdrawn because each of the noted claim limitations is mentioned in the Summary of the Invention. However, those limitations are not described in the detail description of the invention as required



Art Unit: 3679

under 37 CFR 1.71 and 1.75(d). The summary is not a substitute for the detailed description as is clearly stipulated in 37 CFR 1.73 where it is stated that a summary "should precede the detailed description," not replace it.

15. Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

#### *Conclusion*

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In Fig. 8, Oh shows a roller 27 with width L and outer diameter D. Flores et al shows a roller 24 with a "Ls/do ratio" that appears to be less than 0.32.

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR

Art Unit: 3679

1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Binda whose telephone number is (703) 305-2869. The examiner can normally be reached Tuesday through Friday from 9:30 am to 7:00 pm. The examiner can also be reached on alternate Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne, can be reached on (703) 308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9326 (before final), (703) 872-9327 (after final) and (703) 872-9325 (customer service).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.



**GREGORY J. BINDA  
PRIMARY EXAMINER**